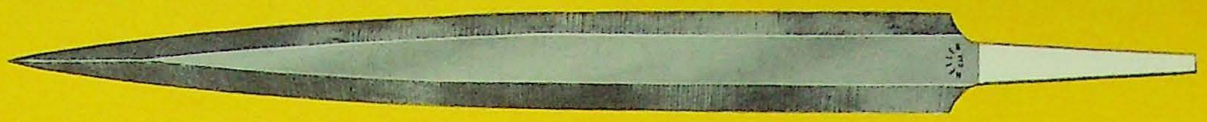
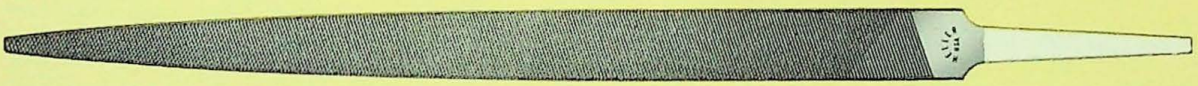


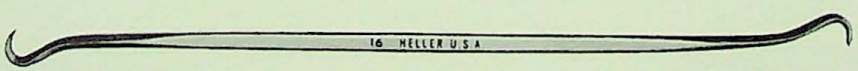
HELLER *American-Swiss*

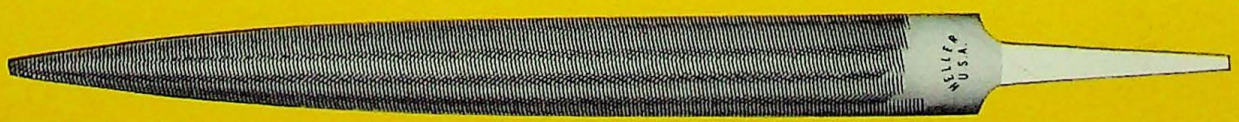


SWISS PATTERN FILES

HELLER TOOL CO., NEWCOMERSTOWN, OHIO

A SUBSIDIARY OF SIMONDS SAW AND STEEL CO.





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HELLER TOOL CO.
A SUBSIDIARY OF SIMONDS SAW AND STEEL CO.
NEWCOMERSTOWN, OHIO

BRANCHES: NEWARK, N. J., DETROIT, CHICAGO, SHREVEPORT, LA., LOS ANGELES, PORTLAND, ORE.

WHAT SWISS-PATTERN FILES ARE

Swiss-Pattern files are the delicate cutting instruments of precision craftsmen — jewelers, gunsmiths, watchmakers, instrument makers, die sinkers, silversmiths, aircraft mechanics, pattern makers and others. Wherever it's necessary to finish delicate and intricate parts, Swiss-Pattern files do the job better, quicker.

Swiss-Pattern files are slender. They are narrower in both width and thickness and the tapered files have fine points. Teeth extend to the extreme edges and cuts are much finer than on other files. Diagrams on page 3 illustrate range of coarseness.

PACKAGING: Files 6" and under are packed one dozen to a package, 8" and over one-half dozen to a package, except machine files. Machine files packed one dozen per box in all sizes.

SIZE: Length, width, thickness given in inches.

WEIGHT: Per one dozen files. Pounds preceding dash, ounces following.

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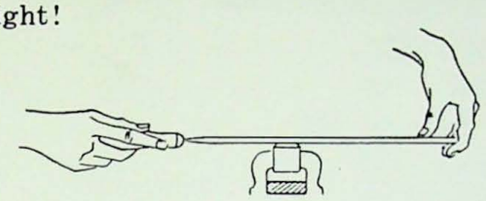
HELLER
American-Swiss
SWISS PATTERN
FILES

HOW TO GET THE MOST OUT OF YOUR SWISS PATTERN FILES

Use Files Properly

1. Select the proper shape, size and cut for each filing task. From the wide variety of Swiss-Pattern files available, there's one right file to do every job right!



2. Whenever possible hold the file horizontal to the work for greater control and efficiency.

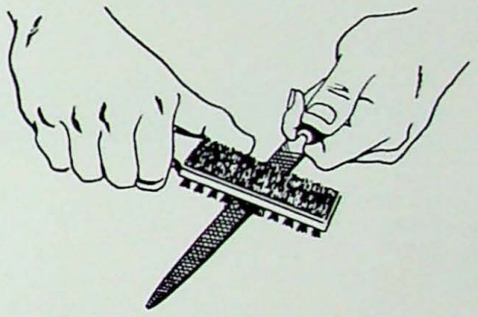
3. For average work, file at elbow height. For delicate filing get the work higher to be nearer eye level. Heavy filing can be done lower to provide maximum leverage.

4. Use only as much pressure as necessary to cut but bear down enough to prevent sliding. Release pressure on the return stroke.

5. Files with wide, thin, rectangular sections are best for general work and should be moved over the job with a slow, even stroke.

6. Files with circular faces should be rotated clockwise during the stroke when used to enlarge holes.

7. Always keep files clean with file brush to prevent scratching and slipping.

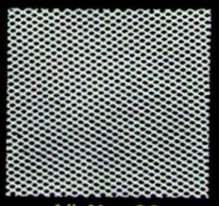


8. Store files by hanging in a rack or returning them to a file box. Never place them in a drawer with other tools where teeth may be dulled and damaged. Keep files dry to prevent rust.

COMPARISON OF CUTS

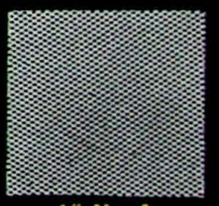
HELLER *American-Swiss* SWISS-PATTERN FILES

Cuts shown are those of a 6" file. On longer files cuts are coarser; on shorter files cuts are finer.



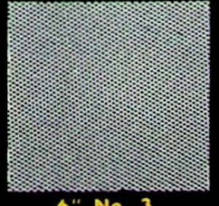
6" No. 00
34 teeth per inch

6" No. 0
50 teeth per inch

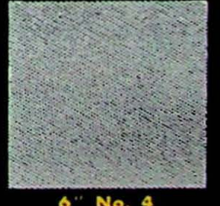


6" No. 1
66 teeth per inch

6" No. 2
84 teeth per inch



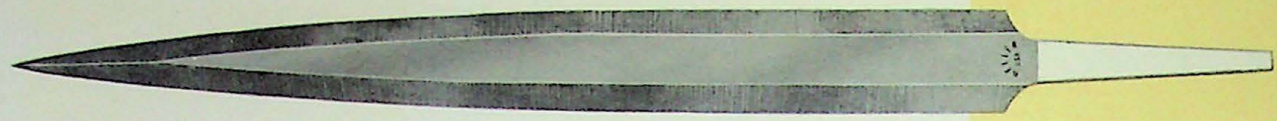
6" No. 3
102 teeth per inch



6" No. 4
120 teeth per inch

6 No. 6
184 teeth per inch

BARRETTE



BARRETTE FILES Used to remove burrs from gear teeth and for filing corners and flat surfaces. Double cut on the wide flat side and safe (uncut) on narrow beveled back.

SIZE	CUT	WT.
3"x3/8	00,0,1,2,4	0-4
4"x1/2	00,0,1,2,4	0-9
6"x21/32	00,0,1,2,4	0-12
8"x7/8	00,0,2,4	2-7

BROACH

BROACH FILES Circular section of very small drill gauge. Parallel from tang to end. Double cut.
Twist drill gauges on Page 11.

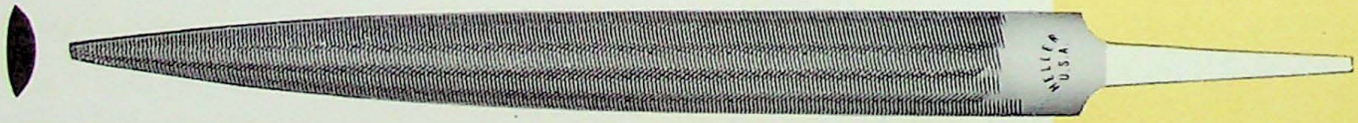
SIZE	CUT	TWIST DRILL GAUGE
3"	0 (Double Cut Over-all)	40-65

CROCHET

CROCHET FILES Used in slots, rounded corners, flat surfaces. Double cut on flat sides and edges.

SIZE	CUT	WT.
3"x17/64x5/64	00,0,2	0-4
4"x 3/8 x3/32	00,0,2,4	0-8
6"x31/64x1/8	00,0,1,2,4	1-0
8"x11/16x5/32	00,0,1,2	1-12
10"x13/16x3/16	00,0,2	4-4

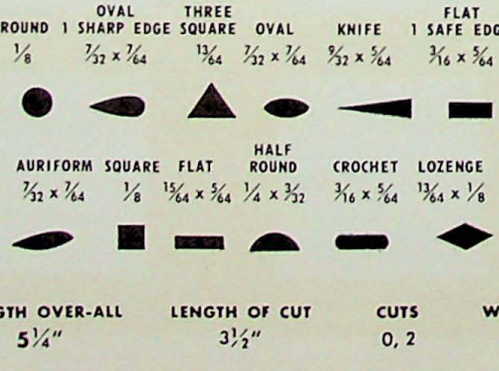
CROSSING



CROSSING FILES Double circular segment section, one side having much flatter curve than the other. Used for corners and holes. Double cut on both sides.

SIZE	CUT	WT.
3"x5/16x3/32	00,0,2,4	0-4
4"x7/16x1/8	00,0,1,2,4	0-8
6"x5/8 x3/16	00,0,1,2,3,4,6	1-10
8"x13/16x1/4	00,0,1,2,4	2-14
10"x31/32x9/32	0,2	6-0

DIE SINKERS'


ROUND 1/8
OVAL 1 SHARP EDGE 7/32 x 7/64
THREE SQUARE 13/64
OVAL 7/32 x 7/64
KNIFE 9/32 x 5/64
FLAT 1 SAFE EDGE 3/16 x 5/64
AURIFORM 7/32 x 7/64
SQUARE 1/8
FLAT 15/64 x 5/64
HALF ROUND 1/4 x 3/32
CROCHET 3/16 x 5/64
LOZENGE 13/64 x 1/8

DIE SINKERS' FILES Used to dress and finish dies of all kinds, or wherever small files are required. Can be furnished in sets of 12 assorted shapes.

LENGTH OVER-ALL	LENGTH OF CUT	CUTS	WEIGHT
5¼"	3½"	0, 2	0-4

EQUALLING

EQUALLING FILES Used in slots and corners. Double cut on both flat sides and single cut on both edges.

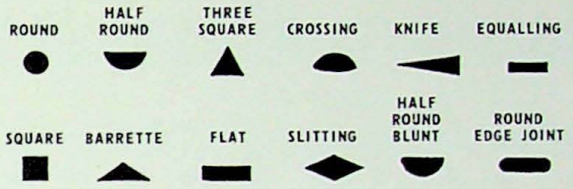
Equalling Files may also be obtained in minimum quantities of one dozen in these B&S gauges in cut numbers 0-2-4 only.

SIZE	CUT	WT.
3"x 5/16x1/16	00,0,2,4	0-3
4"x13/32x5/64	00,0,2,4	0-8
6"x19/32x7/64	00,0,2,4	1-5
8"x 3/4 x9/64	00,0,2,4	2-15

4"—16 B&S gauge (.051") 6"—12 B&S gauge (.081")
4"—18 B&S gauge (.040") 6"—14 B&S gauge (.064")
4"—20 B&S gauge (.032") 8"—10 B&S gauge (.102")

ESCAPEMENT

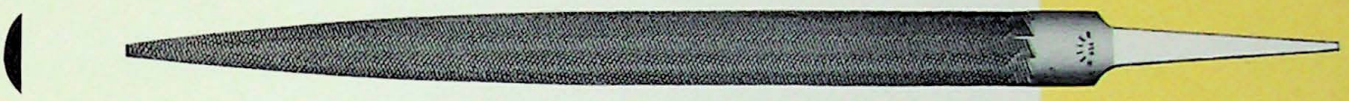
(Square Handle Needle)



ESCAPEMENT FILES Also known as Square Handle Needle Files. Principally used by jewelers, clockmakers and watchmakers. Can be furnished in sets of 12 assorted shapes.

SIZE	CUT	WEIGHT
5½"	0, 2, 4, 6	0-4

HALF-ROUND



HALF-ROUND FILES For corners and holes. The one flat and one half-round side, with sharp corners and gracefully tapered point, makes this a most versatile file. It is double cut on both flat and half round sides.

SIZE	CUT	WT.
3"x9/32x3/32	00,0,1,2,3,4	0-4
4"x3/8 x7/64	00,0,1,2,3,4	0-7
5"x7/16x7/64	00,0,1,2,3,4	0-10
6"x 33/64x9/64	00,0,1,2,3,4,6	1-0
8"x 45/64x3/16	00,0,1,2,3,4	2-0
10"x 15/16x17/64	00,0,1,2,3,4	4-12
12"x 1-7/64x5/16	00,0,2	9-2

HAND

HAND FILES Used for flat surfaces. Uniform in width, double cut on both flat sides. Single cut on one edge and safe (uncut) on the other edge on Cuts No. 00, 0, 2. Two safe (uncut) edges on Cuts No. 3, 4, 6.

SIZE	CUT	WT.
3"x 7/16x5/64	0,2,4	0-7
4"x17/32x7/64	00,0,1,2,3,4	0-12
6"x23/32x5/32	00,0,1,2,3,4,6	2-2
8"x29/32x3/16	00,0,1,2,3,4,6	4-12
10"x1-1/16x7/32	00,0,1,2,4	8-4
12"x1-5/32x1/4	00,0,2,4	12-12

HAND CORRUGATING

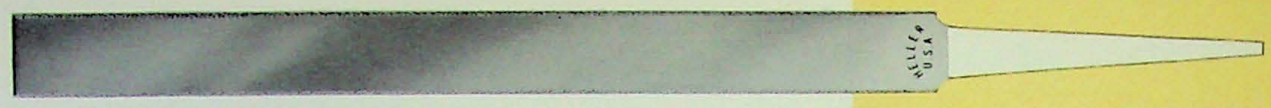
CORRUGATING FILES Made for corrugating barbers' shears and other edged tools. Regularly stocked for corrugating when stroked straight ahead parallel to the axis of the file.

Also called Straight Rowing files, are designed to corrugate when stroked straight ahead. The approximate cross section dimensions are 23/32" x 5/32".

SIZE: 6 inch	CUT: No. 0	No.2	No. 4	WT.
Corrugations per inch.....	50	84	120	2-2

JOINT

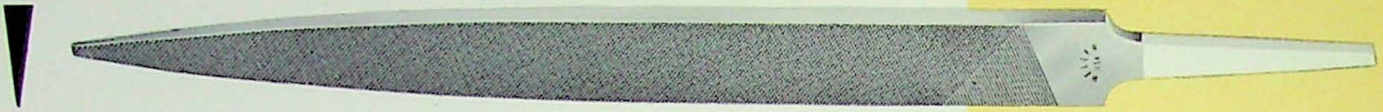
ROUND EDGE | SQUARE EDGE



JOINT FILES Made with both round and square edges, are flat in shape and parallel in width and thickness, double cut on both edges only.

SIZE	CUT	WT.
4"x13/32x5/64 (Thick)	2	0-6
4"x13/32x3/64 (Thin)	2	0-4

KNIFE



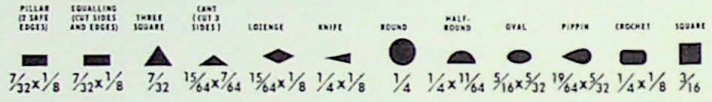
KNIFE FILES Long wedge section for filing in slots. Double cut on both flat sides, single cut on sharp edge.

SIZE	CUT	WT.
4"x31/64x7/64	00,0,1,2,4	0-6
6"x21/32x5/32	00,0,1,2,4	1-0
8"x27/32x3/16	00,0,1,2,4	2-0

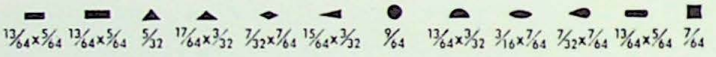
BENCH FILING MACHINE

BENCH FILING MACHINE FILES Double cut, designed to cut on downward stroke, for use in machines for filing dies and patterns. These files all have round shanks and measure 3¼" over-all. Made with ¼" or ⅛" shanks in 12 different shapes. Available in sets of 12 assorted shapes.

3¼" x ¼"



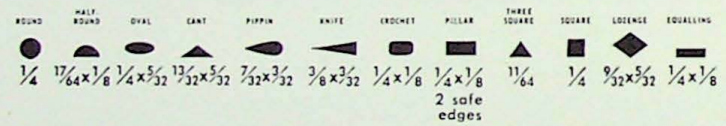
3¼" x ⅛"



CUTS	WT.
00,2	0-10 - ¼"
	0-4 - ⅛"

5" PARALLEL MACHINE

5" PARALLEL MACHINE FILES Designed to cut on the upward stroke and measure 5" exclusive of tang. Available in sets of 12 assorted shapes.



LENGTH OVER-ALL	LENGTH OF CUT	CUTS	WEIGHT
7"	5"	00, 2	0-8

8" PARALLEL MACHINE

8" PARALLEL MACHINE FILES Designed to cut on the downward stroke, these files have 2" shanks that are the same size and shape as the body of the file. Also available in large and small assortments of 12 shapes. The LARGE ASSORTMENT is one each of OVAL, KNIFE, PIPPIN, EQUALLING, LOZENGE and CANT in size shown, and ROUND, SQUARE, PILLAR, CROCHET, THREE SQUARE, and HALF ROUND in ⅜" width. The SMALL ASSORTMENT is one of each of OVAL, KNIFE, PIPPIN, EQUALLING, LOZENGE and CANT in size shown and ROUND, SQUARE, PILLAR, CROCHET, THREE SQUARE, and HALF-ROUND in 3/16" width.

ROUND
1/8"
3/16"
1/4"
5/16"
3/8"
1/2"
5/8"

SQUARE
3/16"
1/4"
3/8"
1/2"

PILLAR (1 SAFE EDGE)
3/16"x3/32"
1/4"x1/8"
3/8"x3/16"
1/2"x1/4"

CROCHET
3/16"x3/32"
1/4"x1/8"
3/8"x3/16"
1/2"x3/16"

THREE SQUARE
3/16"
1/4"
3/8"
1/2"

HALF ROUND
3/16"x3/32"
1/4"x1/8"
3/8"x3/16"
1/2"x1/4"

OVAL
11/32"x3/16"

KNIFE
15/32"x1/8"

PIPPIN
19/64"x5/32"

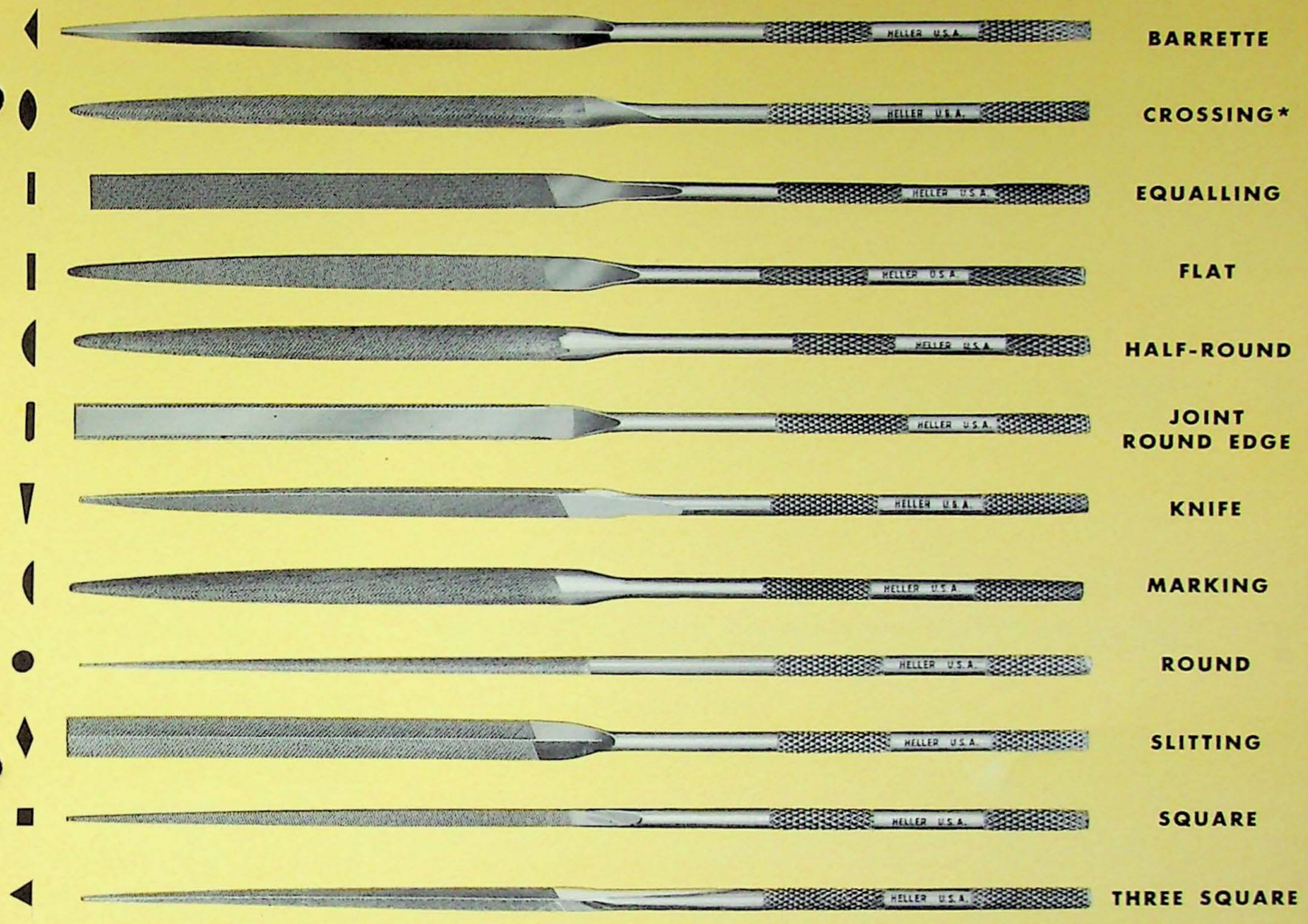
EQUALLING (CUT SIDES AND EDGES)
3/8"x5/64"

LOZENGE
11/32"x7/32"

CANT (CUT 3 SIDES)
11/32"x5/32"

LENGTH OF CUT	LENGTH OVER-ALL	CUTS
6"	8"	00, 2

NEEDLE (ROUND KNURLED HANDLES)



NEEDLE FILES For die makers and other fine tool makers. Twelve different shapes each with long knurled handle for firm grip. Can be furnished in sets of twelve assorted shapes. All are double cut.
*In 4" length, Oval is furnished instead of Crossing.

SETS PACKAGED IN KIT . . . hangs above work bench

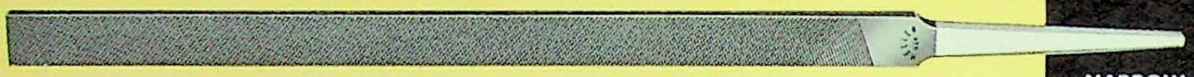
SIZE	CUT	WT.
4"	0,2,4,6	0-2
5-1/2"	0,2,4,6	0-3
6-1/4"	0,2,4,6	0-4

PILLAR

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x19/64x5/64	00,0,2,3,4	0-4	**8**"x39/64x13/64	00,0,1,2,3,4	3-5
4"x23/64x7/64	00,0,1,2,3,4,6	0-8	**10**"x47/64x15/64	00,0,1,2,4	6-0
6"x15/32x9/64	00,0,1,2,3,4	1-5	**12**"x53/64x17/64	00,0,1,2	8-9

PILLAR FILES Narrower than Hand files for slots as well as flat surfaces. Double cut on both flat sides and safe (uncut) on both edges.

PILLAR NARROW



SIZE	CUT	WT.	SIZE	CUT	WT.
3"x 7/32x5/64	0,1,2,4,6	0-4	**8**"x29/64x13/64	00,0,1,2,3,4	2-8
4"x 9/32x7/64	00,0,1,2,3,4,6	0-7	**10**"x 9/16x17/64	00,0,1,2,4	4-5
6"x23/64x9/64	00,0,1,2,3,4,6	1-0	**12**"x 5/8 x5/16	00,0,2	8-0

NARROW PILLAR FILES Like all Pillar files, this file is sometimes used for finishing work that has been started with a Hand file.

PILLAR EXTRA NARROW

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x 9/64x3/32	00,0,1,2,3,4,6	0-3	**8**"x5/16x13/64	00,0,1,2,3,4	1-10
4"x11/64x7/64	00,0,1,2,3,4,6	0-5	**10**"x3/8 x15/64	00,0,1,2,4	3-0
6"x 1/4x9/64	00,0,1,2,3,4,6	0-12	**12**"x7/16x1/4	00,0,2	5-10

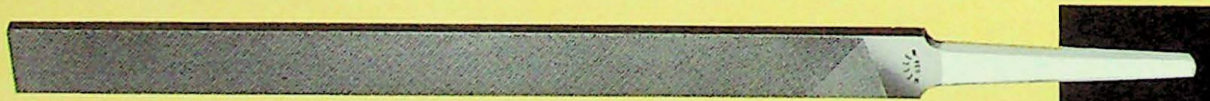
Additional Widths — Extra Narrow Pillar Files*

SIZE	CUT	WT.	SIZE	CUT	WT.
6"x1/8 x5/64	00,0,2,3,4,6	1-0	**6**"x3/16x7/64	00,0,2,3,4	1-0

EXTRA NARROW PILLAR FILES Same uses as Pillar files above. Narrow width gets in "tighter" places.

***SPECIAL PILLAR FILES** In addition to the regular widths, Pillar Extra Narrow files are furnished in the additional widths as shown. These are available in minimum quantities of one dozen of the same kind.

PILLAR TESTING



SIZE	CUT	WT.	SIZE	CUT	WT.
6"x15/32x9/64	0,1	1-5	**8**"x29/64x13/64	0,1	2-8

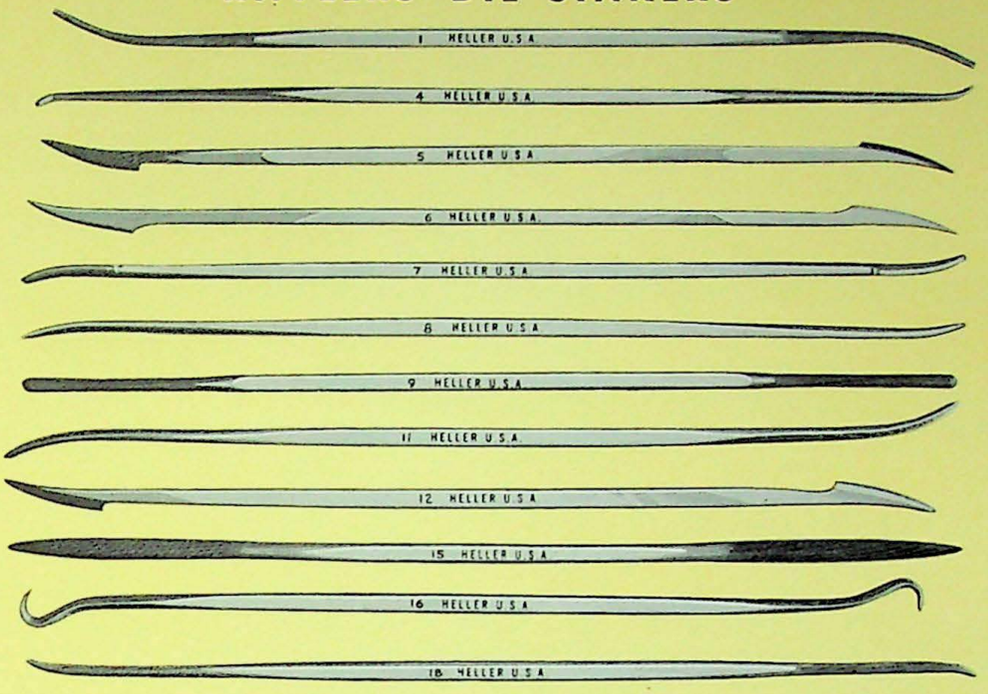
PILLAR TESTING FILES Special form and style of extremely hard, double-cut teeth for testing the hardness of tools or metals.

PIPPIN

SIZE	CUT	WT.	SIZE	CUT	WT.
4"x 9/32x1/8	00,0,2	0-4	**8**"x1/2x7/32	00,0,2	1-12
6"x13/32x5/32	00,0,2	0-12			

PIPPIN FILES Work best on rounded corners and holes. Sometimes called Appleseed files. Double cut.

RIFFLERS—DIE SINKERS'



DS-1
DS-4
DS-5
DS-6
DS-7
DS-8
DS-9
DS-11
DS-12
DS-15
DS-16
DS-18

For die-sinkers, jewelers and instrument manufacturers. Long, straight, safe (uncut) middle portion for handhold. Cut ends in 12 different shapes and sections. Slender stock and narrow ends. Always order these rifflers by the number designations given.

SIZE
6½"

CUT
0,2,4

WT.
0-8

RIFFLERS—SILVERSMITHS'

SS-1
SS-2
SS-3
SS-4
SS-5
SS-6
SS-7
SS-8
SS-9
SS-10
SS-11
SS-12

Used principally by silversmiths in making glass moulding dies. Longer sections and wider ends than die sinkers' rifflers. Safe (uncut) middle portion for handhold. Cut ends in 12 different shapes and sections. Can be furnished in assorted sets of 12.

SIZE
7½"

CUT
0,2

WT.
0-14

ROUND TAPER

ROUND TAPER FILES For enlarging holes, rounding corners. Double cut.

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x3/32	00,0,1,2,3,4,6	0-2	**8**"x1/4	00,0,1,2,3,4	1-2
4"x1/8	00,0,1,2,3,4,6	0-3	**10**"x21/64	00,0,1,2,4	2-7
5"x5/32	00,0,1,2,3,4	0-5	**12**"x27/64	00,0,2	5-4
6"x3/16	00,0,1,2,3,4,6	0-8			

ROUND STRAIGHT

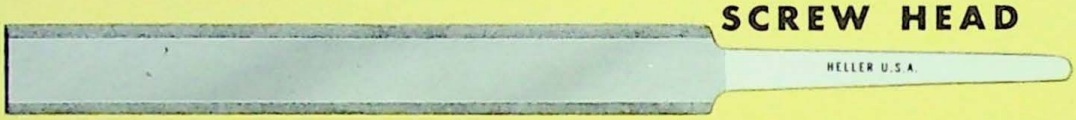
ROUND STRAIGHT FILES Work in corners and holes. Double cut all over. Special sizes available in minimum quantity of one dozen of same size and cut.

SIZE	CUT	WT.	SIZE	CUT	WT.
4"x1/8	00,0,2,4	0-3	**8**"x1/4	00,0,2,4	1-6
6"x3/16	00,0,2,4	0-10			

These special sizes also carried in stock

SIZE	CUT	SIZE	CUT
4"x1/16 or 3/32	00,0,2,4	**8**"x5/16 or 3/8	00,0,2,4
6"x1/8 or 5/32	00,0,2,4		

SCREW HEAD

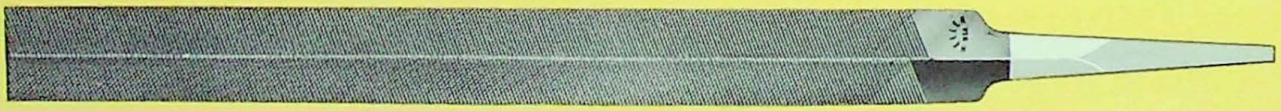


SCREW HEAD FILES Principally used for clearing out and enlarging the heads of screws in watches and jewelry. Safe (uncut) on flat sides. Double cut on all four bevels and single cut on edges.

(With or Without Tang)

SIZE	CUT	WT.
3"x7/16x1/32	6	0-3

SLITTING



SLITTING FILES For use in corners, slots, and acute angles. Double cut on all four sides and single cut on edges.

SIZE	CUT	WT.	SIZE	CUT	WT.
4"x7/16	0,2	0-6	**6**"x5/8	0,2	0-12

SQUARE

SQUARE FILES Used in corners, holes. Double cut on three sides, fourth side safe (uncut).

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x1/16	0,2,3,4	0-2	**8**"x15/64	00,0,1,2,4	1-12
4"x7/64	00,0,1,2,3,4	0-3	**10**"x21/64	00,0,2,4	3-6
6"x5/32	00,0,1,2,3,4	0-10			

THREE SQUARE

THREE SQUARE FILES Triangular section for use in corners and holes. Double cut on all three sides and single cut on edges.

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x5/32	0,1,2,4	0-2	**6**"x11/32	00,0,1,2,3,4	0-15
4"x1/4	00,0,1,2,3,4	0-6	**8**"x15/32	00,0,1,2,4	2-5
			10"x19/32	00,0,2,4	4-9

WARDING FILES For filing slots. Double cut on both flat sides and single cut on both edges.

SIZE	CUT	WT.	SIZE	CUT	WT.
3"x13/32x1/32	00,0,2,4	0-4	**8**"x25/32x3/32	00,0,2,4	1-8
4"x 7/16x3/64	00,0,2,4	0-4	**10**"x15/16x7/64	00,0,2	2-12
6"x19/32x5/64	00,0,2,4	0-10			

Warding Files may also be obtained in minimum quantities of one dozen in these B&S gauges as follows: 3" available in cut #0 only, 4" and 6" available in cut #0-2-4.

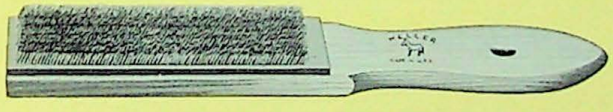
3"—18 B&S gauge	4"—18 B&S gauge	6"—14 B&S gauge
3"—20 B&S gauge	4"—20 B&S gauge	6"—16 B&S gauge
3"—22 B&S gauge	6"—11 B&S gauge	6"—18 B&S gauge
4"—16 B&S gauge	6"—13 B&S gauge	6"—20 B&S gauge

B & S GAUGES AND THEIR DECIMAL EQUIVALENTS

No. 8—.128"	No. 12—.081"	No. 16—.051"	No. 20—.032"
No. 9—.114"	No. 13—.072"	No. 17—.045"	No. 21—.028"
No. 10—.102"	No. 14—.064"	No. 18—.040"	No. 22—.025"
No. 11—.091"	No. 15—.057"	No. 19—.036"	No. 23—.022"

TWIST DRILL GAUGES AND THEIR DECIMAL EQUIVALENTS

No. 40—.0980"	No. 47—.0785"	No. 53—.0595"	No. 59—.0410"
No. 41—.0960"	No. 48—.0760"	No. 54—.0550"	No. 60—.0400"
No. 42—.0935"	No. 49—.0730"	No. 55—.0520"	No. 61—.0390"
No. 43—.0890"	No. 50—.0700"	No. 56—.0465"	No. 62—.0380"
No. 44—.0860"	No. 51—.0670"	No. 57—.0430"	No. 63—.0370"
No. 45—.0820"	No. 52—.0635"	No. 58—.0420"	No. 64—.0360"
No. 46—.0810"			No. 65—.0350"



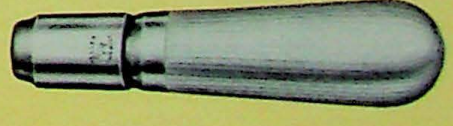
FILE CARD

When file teeth are clogged with filings—slipping, scratching and inefficient cutting result. Clean your coarse file frequently with a file card (specially designed fine wire brush), and use the brush on your fine cut file. The combination file card and brush provides both card and brush, with a specially designed pick, in one handy cleaning tool.

COMBINATION FILE CARD AND BRUSH

FILE HANDLES

A handle should always be used on a tanged file. A properly fitted handle means quicker, better work, and makes the job easier and safer. Heller handles are manufactured of soft wood and readily absorb hand moisture. Long shank steel ferrule prevents splitting.



# 104	4" for small files	# 110	5½" for files 12" to 14"
# 106	4½" for files 4" to 8"	# 112	6" for files 16" to 20"
# 108	5" for files 8" to 10"		

Standard carton contains ¼ gross of a size.

NUCUT AMERICAN PATTERN FILES

AMERICAN-SWISS SWISS PATTERN FILES

VIXEN MILLED CURVED-TOOTH FILES

ROTARY FILES AND BURRS

HACKSAWS - HAND AND POWER

METAL CUTTING BAND SAWS

FLAT GROUND STEEL

CARBIDE TOOLS AND BURRS

HAMMERS

HELLER TOOL CO.

America's Oldest File Manufacturer
NEWCOMERSTOWN, OHIO
Subsidiary of Simonds Saw and Steel Co.

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